



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,950	12/04/2003	Ramnath N. Iyer	EP-7596	7388

34769 7590 12/08/2006

NEW MARKET SERVICES CORPORATION  
(FORMERLY ETHYL CORPORATION)  
330 SOUTH 4TH STREET  
RICHMOND, VA 23219

EXAMINER
----------

LANG, AMY T

ART UNIT	PAPER NUMBER
----------	--------------

3731

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/727,950	Applicant(s) IYER ET AL.	
	Examiner Amy T. Lang	Art Unit 3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) 1,3-7,9-11,13-19 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-11,13-19 and 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

All outstanding rejections are overcome by applicant's amendment filed 10/13/06.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 10/13/06 in particular, claims 1, 3-7, 9-11, 13-19, and 22-25. This combination of limitations was not present in the original claims. Thus, the following action is properly made final.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 3 includes "wherein the thiadiazole is substituted with at least one linear, branched, or cyclic saturated or unsaturated hydrocarbon group." However, "the thiadiazole" refers to either (a), (b), (c), or (d) as listed in claim 1. The specification

Art Unit: 3731

does not support the specific thiadiazoles compounds, listed in claim 1, as substituted with a hydrocarbon group. As stated in the original claims filed 12/04/03, the specification does support a broadly claimed thiadiazole compound substituted with a hydrocarbon group. Since claim 3, which is now dependent on the amended claim 1, refers to the specific thiadiazoles, it is not supported by the specification.

3. Claims 1, 11, and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 11 and 19 include an amount of thiadiazole or derivative thereof "sufficient to provide a coefficient of friction of at least 0.0758." However, the instant specification only provides support for an amount sufficient to provide a coefficient of friction of about 0.085 or greater (page 2, lines 12-15) or in amount of 0.095 wt% to produce a low pulley coefficient of friction of 0.0758 (Table 1). Therefore, the specification does not support the claimed material.

4. Claims 22 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 22 and 24 include an amount of thiadiazole "sufficient to provide a coefficient of friction of at least 0.0792." However, the instant specification only provides support for an amount sufficient to provide a coefficient of friction of about 0.085 or greater (page 2, lines 12-15) or in amount of 0.095 wt% to produce a top pulley coefficient of friction of 0.0758 (Table 1). Therefore, the specification does not support the claimed material.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 5, 7, 9-11, 13, 14, 16-19 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ward (US 6,251,840 B1).

Ward discloses a lubricating composition for use as a transmission fluid, including a continuously variable transmission, which inherently encompasses steel-on-steel contact (column 1, lines 12-17). A specific useful base oil is disclosed as mineral oil in an amount greater than 80 wt% (column 2, lines 30-33, 47-52). Therefore, mineral oil is a preferred embodiment of the invention. The composition further includes 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(hydrocarbyldithio)-1,3,4-thiadiazole, products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole, and mixtures thereof (column 4, lines 38-62).

Ward does not disclose (i) the coefficient of friction of the lubricating composition or (ii) the composition as having improved steel-on-steel properties.

With respect to (i) above, the disclosed thiadiazoles are present in the lubricating composition from 0.025 to 5 wt% (column 4, lines 38-39). Since the instant specification provides evidence that this amount is sufficient to provide a coefficient of friction of at least 0.0758, Ward clearly overlaps the instant claims (see Table 1 of Spec).

With respect to (ii) above, since Ward discloses the same lubricating composition as is instantly claimed, the disclosed composition would intrinsically display the same steel-on-steel friction properties.

Therefore, Ward '840 anticipates the cited present claims.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1, 4, 5, 7, 9-11, 13, 14, 16-19 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward (US 6,251,840 B1) in view of Avery (US 5,853,435).

Ward, as discussed in paragraph 6 and incorporated here by reference, discloses a lubricating composition for use as a transmission fluid comprising. The composition comprises products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole and mineral oil.

Ward does not specifically disclose the coefficient of friction of the composition.

Avery discloses a lubricating composition comprised of products from nonyl thiol and 2,5-dimercapto-1,3,4-thiadiazole (Example 1; column 5). When this product was then mixed with mineral oil, the coefficient of friction was measured as 0.11 (Table 2; column 6). Therefore Avery discloses that a mixture of the two disclosed compositions results in a coefficient of friction that overlaps the instant claims. It therefore would have been obvious for Ward to also combine the same ingredients to produce the same coefficient of friction, as this is known in the art.

10. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward (US 6,251,840 B1) in view of Ooyama (US 6,634,977 B2) or Ward (US 6,251,840 B1) in view of Avery (US 5,853,435) and Ooyama.

Ward, as disclosed in paragraph 6 is incorporated here by reference, discloses a continuously variable transmission fluid (hereinafter, "CVT").

Avery, as disclosed in paragraph 9 is incorporated here by reference, discloses a coefficient of friction for a composition comprising a thiadiazole compound and mineral oil.

Ward is silent as to the specific type of CVT.

Ooyama discloses continuously variable transmissions for vehicles, including belt-, chain-, and toroidal-type CVT's (column 1, lines 16-38; column 4, line 55 through column 5, line 15). Therefore, it is common for a CVT to be of a belt-, chain-, and toroidal-type so that it would have been obvious for Ward to use any one of these.

#### ***Terminal Disclaimer***

11. The terminal disclaimer filed on 10/13/06 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number US 2005/0054542 A1 (mUchmore) has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within



Art Unit: 3731

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Lang whose telephone number is (571) 272-9057. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on (571) 272-4963. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/21/06  
Amy T. Lang

ATL

  
ANH TUAN T. NGUYEN  
SUPERVISORY PATENT EXAMINER

12/5/06